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EFFECT OF PRESSURE ON THE FUSION POINT.

Dr. Carnelly recently read a paper before the Chemical Society of London, in which he thus explains the device which he has adopted in order to secure and maintain a vacuum in a case of ice. For the success of the experiment the tension must be below 5 millimetres. The apparatus consists of a wide glass tube ¾ inch in diameter, and about 5 to 6 feet high. This is placed in a vertical position, and is connected at its upper end with a strong glass flask placed horizontally, and surrounded with a freezing mixture. The apparatus having been inverted and filled with mercury, the lower end of the tube is closed with the thumb, and placed under the surface of a layer of mercury about 10 inches deep. On withdrawing the thumb the mercury sinks in the tube to the barometric height, and a large Torricellian vacuum is obtained, which is surrounded, as far as the flask is concerned, with a freezing-mixture. A small quantity of boiled water is now introduced, which rises to the top of the mercurial column, and surrounds the bulb of a thermometer suspended inside of the tube. The water is then frozen, and the depth of the layer of mercury in which the tube stands reduced to about 3 ins.; in consequence the mercury in the tube sinks, and leaves a detached column of ice with the thermometer bulb in its centre. This column acts as a cork, shutting off the large vacuous space above from the small vacuum below. By carefully heating the tube the ice is melted round the circumference of the plug, and a fine annular opening is made between the ice and the inside of the glass tube. This restores the communication between the upper and lower portion of the vacuum. As soon as this is effected, any aqueous vapor which is formed is at once condensed by the freezing-mixture, and the vacuum is kept intact. Under these circumstances the author has made the ice so hot that the thermometer in the centre of the cylinder stood at 180° C. before the ice melted. In the experiment shown to the Society the thermometer only rose to 30° C. when the cylinder (which was too large and therefore too heavy) dropped off the thermometer. To prove that the ice was really hot Dr. Carnelly has contrived and carried out some experiments, in which the cylinder of hot ice was dropped into a small calorimeter filled with water; the temperature rose when the ice was introduced, whereas if ordinary ice it would of course have been lowered. He then showed two experiments with camphor and mercuric chloride, which were perfectly successful. The camphor was contained in a glass tube closed at one end and connected at the other with a Sprengel pump. On heating the tube the camphor melted, but on starting the Sprengel pump the camphor, as the pressure decreased, solidified, though the heating was continuous. The mercuric chloride was similarly raised many degrees above its ordinary melting-point, when kept under diminished pressure, without liquefying; but on allowing the atmospheric pressure to enter, by cutting the tube, the solid mass immediately melted and began to boil.

THE PHILOSOPHICAL SOCIETY OF WASHINGTON.

We are informed by Professor Cleveland Abbe that the following are the newly elected officers of the Philosophical Society of Washington: President, Dr. J. J. Woodward; Vice-Presidents, Dr. G. K. Barnes, J. E. Hilgard, J. C. Welling, William Taylor; Secretaries, J. N. Gill, C. E. Dutton; Treasurer, Cleveland Abbe.

HYPNOTISM.

A writer in the *Medical Record* sums up the result of his experiences of Hypnotism and its phenomena as follows:

First. Impressions cannot be communicated to individuals in the hypnotic condition, except through the external senses. The mind of the operator cannot influence that of the subject by a purely mental effort. He must either speak, write, or gesticulate to convey his ideas.

Second. Remembrance of what has passed, during the hypnotic state, in the mind of the subject, is very slight, but if he is told to remember any particular thing while so affected, he will recollect it when he awakens.

Third. Although I pursued the method used by others, I am satisfied that the employment of any means that will induce a temporary abstraction of the mind is all that is required to induce the peculiar condition.

Fourth. Although the subjects seem to be entirely oblivious to all that is going on, they are not perfectly so. In the case of a young lady, who was told that she was a bird, and thereupon commenced to hop, her dress became disarranged, and, although continuing to hop like a bird, she was careful to keep her dress in its proper condition.

Fifth. It is not necessary that the operator nor the one operated upon believe in the truth of hypnotism, or the success of the trial. If the necessary conditions are complied with the effect will follow. One case mentioned above proves this to be true.

All the strange psychical conditions under the names of hypnotism, magnetism, braidism, mesmerism, trance, somnambulism, ecstacy, etc., come under the same category, and I believe that clairvoyance and spiritualism can be included in the list.

As far as I have seen, I have never observed contraction of muscles, areas of hyperæsthesia, or other disorder of sensibility, or any unnatural condition or action of any part of the body in the persons affected, unless the operator should direct their attention to themselves by speaking or motioning to them; for example, he would indicate that their faces were away, that their arms or fingers were stiff, or that they had a pain in the head, back, or some other part. In such a case what was told them would be the basis on which they would feel or act.

If I should venture an explanation, or more properly a description of the phenomena of hypnotism, I would say that they resulted from a suspension of function of the centre for ideas in the brain of the subject, and also of his will, while the infra-cortical ganglia remain free to act from a reflex excitation imparted by the voice, gestures, or manners of the operator.

THE HAMMOND PRIZE.

The American Neurological Association offers a prize of five hundred dollars, to be known as the "William A. Hammond Prize," and to be awarded, at the meeting in June, 1882, to the author of the best essay on the *Functions of the Thalamus in Man.* The conditions under which the prize is to be awarded are as follows: 1. The prize is open to competitors of all nationalities. 2. The essays are to be based upon original observations and experiments on man and the lower animals. 3. The competing essays must be written in the English, French, or German language; if in the last, the manuscript is to be in the Italian handwriting. 4. Essays are to be sent (postage prepaid) to the Secretary of the Prize Committee, Dr. E. C. Seguin, No. 41 West Twentieth street, New York City, on or before February 1, 1882; each essay to be marked by a distinctive device or motto, and accompanied by a sealed envelope bearing the same device or motto, and containing the author's visiting card. 5. The